

FINAL Five-Year Review Report

**Fourth Five-Year Review Report
for
Standard Steel & Metals Salvage Yard (USDOT)**

Anchorage, Alaska

April 2018

PREPARED BY:

U.S. Army Corps of Engineers, Alaska District



FOR:

**U.S. Environmental Protection Agency, Region 10
Seattle, WA**



Approved by:

Date:

Sheryl Bilbrey

4/11/2018

Sheryl Bilbrey, Director
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Table of Contents

Executive Summary	1
Five-Year Review Summary Form.....	2
I. Introduction.....	4
II. Site Chronology	5
III. Background	6
Physical Characteristics	6
Land Use & History of Contamination	6
Initial Response.....	6
Basis for Taking Action	7
IV. Remedial Actions	7
Remedy Selection	7
Remedy Implementation	8
Operations and Maintenance (O&M)	10
Institutional Controls	10
V. Progress Since the Last Review	12
VI. Five-Year Review Process	12
Administrative Components	12
Community Notification and Involvement	12
Document Review	13
Data Review	13
Site Inspection.....	14
VII. Technical Assessment	15
Question A: Is the remedy functioning as intended by the decision documents?	15
Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?	15
Question C: Has any other information come to light that could call into question the protectiveness of the remedy?.....	17
Technical Assessment Summary	17
VIII. Issues	17
IX. Other Findings	18
X. Recommendations and Follow-Up Actions.....	19
XI. Protectiveness Statement(s).....	19
XII. Next Review	19

TABLES

Table 1	Chronology of Site Events
Table 2	Annual Operations & Maintenance Costs
Table 3	Summary of Groundwater Monitoring Data 1999-2012

FIGURES

Figure 1	Site Location and Vicinity Map
Figure 2	Aerial View of Standard Steel & Metals Salvage Yard
Figure 3	Monitoring Well Locations
Figure 4	Land Use Status Standard Steel & Metals Salvage Yard
Figure 5	Aerial View August 1995
Figure 6	Aerial View October 2012
Figure 7	Aerial View September 2017
Figure 8	Aerial View Comparison
Figure 9	Flood Hazard Zones from Municipality of Anchorage
Figure 10	Alaska Terminal Reserve Remedial Investigation: Ship Creek Area RI Sediment Data - Organics
Figure 11	Erosion Control Wall and Flood Elevations

PHOTOS

Photos Documenting Site Conditions (included in Attachment 3 Site Inspection)

ATTACHMENTS

Attachment 1	List of Documents Reviewed
Attachment 2	Completed Interview Questionnaires and Records
Attachment 3	Site Visit Report and Site Inspection Checklist (2018)
Attachment 4	Title Search Report (2017)
Attachment 5	Public Notice of 5 Year Review (2017)
Attachment 6	USEPA Ecological Risk Assessment Email for PCBs in Ditch SE-4
Attachment 7	USEPA Letter Transferring Oversight of Anchorage Terminal Reserve to ADEC
Attachment 8	Potentially Responsible Party Group Comments
Attachment 9	ADEC Letter of Concurrence

List of Acronyms

ADEC	Alaska Department of Environmental Conservation
aa	Alaska Resource Library and Information Services
ARRC	Alaska Railroad Corporation
ATR	Anchorage Terminal Reserve
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CRS	Central Recycling Services, Inc.
dba	doing business as
ESD	Explanation of Significant Difference
FRA	Federal Railroad Administration
GPRA	Government Performance and Results Act
GW	groundwater
HI	hazard index
JBER	Joint Base Elmendorf Richardson
mg/kg	milligrams per kilogram
MW	Monitoring Well
NCP	National Contingency Plan
ND	non-detect
NPL	National Priorities List
O&M	Operation and Maintenance
PCB	polychlorinated biphenyl
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RAU	Ready for Anticipated Use
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
Standard Steel	Standard Steel & Metals Salvage Yard Superfund

TSCA	Toxic Substances Control Act
$\mu\text{g}/100\text{cm}^2$	micrograms per 100 centimeters squared
$\mu\text{g}/\text{L}$	micrograms per liter
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

Executive Summary

The remedy selected for the Standard Steel & Metals Salvage Yard Superfund Site (Standard Steel) in Anchorage, Alaska includes: removal and offsite disposal of stockpiled regulated material; offsite disposal of scrap metal and debris; excavation, stabilization and capping of contaminated soils on-site; maintenance of the cap and erosion control structures on Ship Creek; institutional controls; and groundwater monitoring. This site is not divided into Operable Units; therefore this five-year review covers sitewide conditions. The site achieved Construction Completion with the signing of the Final Close Out Report on June 26, 2002. The site was deleted from the National Priorities List on September 30, 2002. An initial five-year review was triggered by the actual start of construction on April 23, 1998 and completed on April 23, 2003. The second five-year review was completed on April 11, 2008. The third five-year review was completed on April 11, 2013. This fourth five-year review was triggered by the completion date of the third five-year review.

The remedy at Standard Steel is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled. The remedy is functioning as intended in accordance with the Record of Decision signed on July 16, 1996. The immediate threats have been addressed and the remedy is expected to remain protective of human health and the environment.

The Superfund Program tracks progress at cleanup sites using several indicators, to comply with mandates of the Government Performance and Results Act (GPRA). The sitewide human exposure environmental indicator is designed to document long-term human health protection on a sitewide basis by measuring the incremental progress achieved in controlling unacceptable human exposures at a Superfund site. The groundwater environmental indicator demonstrates that all information on known and reasonably expected groundwater contamination has been reviewed and that the migration of contaminated groundwater is stabilized and there is no unacceptable discharge to surface water. The Sitewide Ready for Anticipated Use (RAU) measure reports that all cleanup goals in the Record of Decision have been achieved for media that may affect current and reasonably anticipated future land uses of the site, so that there are no unacceptable risks; and all institutional or other controls required in the Record of Decision have been put in place.

As of April 2018, for the Standard Steel Site:

- The Human Health Environmental Indicator Status is Long Term Human Health Protected.
- The Groundwater Environmental Indicator Status is Under Control.
- The Cross Program Measure Status is Ready for Anticipated Use (11.12 acres).

As of April 2018, ten groundwater monitoring events were completed between 1999 and 2012, which demonstrate that onsite groundwater is not adversely impacted by the stabilized material and no offsite migration is occurring that could affect Ship Creek. No Contaminants of Concern were detected during groundwater monitoring and it was concluded that continued groundwater monitoring was not necessary to demonstrate that the remedy is protective of human health and the environment. EPA approval was granted in September 2014 to discontinue groundwater monitoring.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site Name: Standard Steel & Metals Salvage Yard (USDOT)

EPA ID: AKD980978787

Region: 10

State: AK

City/County: ANCHORAGE

SITE STATUS

NPL Status: Deleted

Multiple OUs?

No

Has the site achieved construction completion?

Yes

REVIEW STATUS

Lead agency: EPA

If "Other Federal Agency" was selected above, enter Agency name:

Author name (Federal or State Project Manager): Rebecca Jordan

Author affiliation: U.S. Army Corps of Engineers, Alaska District

Review period: 07/30/2017 – 3/21/2018

Date of site inspection: 09/26/2017

Type of review: Statutory

Review number: 4

Triggering action date: 04/11/2013

Due date (five-years after triggering action date): 04/11/2018

Issues/Recommendations

OU(s) without Issues/Recommendations Identified in the Five-Year Review:

There are no issues that affect the protectiveness of the remedy.

Sitewide Protectiveness Statement

Protectiveness Determination:

Protective

Protectiveness Statement:

The remedy at the site is protective of human health and the environment. All exposure

pathways that could result in unacceptable risks are being controlled. All contamination at the site has been addressed through stabilization and capping of contaminated soils and the implementation of institutional controls. All groundwater monitoring data indicates the landfill containment cell is functioning as required to prevent exposure to the contaminated materials and prevent offsite migration of contaminants.

Five-Year Review Report

I. Introduction

The purpose of this fourth five-year review is to determine whether the remedy at the Standard Steel & Metals Salvage Yard (USDOT) is protective of human health and the environment. The methods, findings, and conclusions of Five-Year Reviews are documented in the Five-Year Review Reports. The five-year review report identifies issues found during the review, if any, and identifies recommendations to address them.

This five-year review report is being prepared pursuant to the authority in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 and the National Contingency Plan (NCP). CERCLA Section 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five-years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section 104 of 106, the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The NCP, at 40 Code of Federal Regulations (CFR) Section 300.340(f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five-years after the initiation of the selected remedial action.

The United States Environmental Protection Agency (USEPA), Region 10, is the lead Agency for the Standard Steel & Metals Salvage Yard Superfund site (Standard Steel). This is the fourth five-year review for the site. The triggering action for this review is the date of the third five-year review: April 11, 2013. The second five-year review was conducted in April 2008 and the first five-year review was conducted in April 2003. Although the Standard Steel Superfund site was deleted from the National Priorities List (NPL) in September 2002, periodic five-year reviews must continue because contaminants remain capped onsite and land use is restricted to industrial use.

At the request of the USEPA, the U.S. Army Corps of Engineers (USACE) prepared the fourth five-year review of the remedy implemented at the site in Anchorage, Alaska. This review was conducted by staff from the Alaska District office on Joint Base Elmendorf-Richardson (JBER) in Anchorage, Alaska, from July 2017 to April 2018. This report documents the results of the review.

II. Site Chronology

Table 1: Chronology of Site Events

Event	Date
Metals recycling and salvaging operations	1955 - 1993
Standard Steel & Metals leases the site	1982
Alaska Railroad Corporation purchases site from Federal Railroad Administration	1985
Initial discovery of problem or contamination	October 28, 1985
Pre-NPL Removal Actions	June 2, 1986 – June 29, 1988
NPL listing	August 30, 1990
Administrative Order on Consent to Conduct Remedial Investigation/Feasibility Study	September 23, 1992
Remedial Investigation/Feasibility Study complete	January 30, 1996
ROD signature	July 16, 1996
Partial Consent Decree for Recovery of Removal Costs	December 11, 1996
CERCLA Remedial Design/Remedial Action (RD/RA) Consent Decree	January 26, 1998
Remedial Design Start	October 4, 1996
Remedial Design Complete	April 23, 1998
Actual Remedial Action Start	April 23, 1998
Explanation of Significant Differences	November 18, 1998
Construction Finish	August 1, 1999
Final Inspection	August 27, 2001
Construction Completion Date	June 26, 2002
Final Close-out Report	June 26, 2002
Deletion from NPL	September 30, 2002
First Five-Year Review	April 23, 2003
Second Five-Year Review	April 11, 2008
Ditch SE-4 PCBs results included in ATR Remedial Investigation	May 12, 2008
Third Five-Year Review	April 11, 2013
Groundwater monitoring is discontinued	September 2014
Fourth Five-Year Review	April 11, 2018

III. Background

Physical Characteristics

The Standard Steel & Metals Salvage Yard site was an 11-acre metal salvage yard in Anchorage, Alaska. The site is located north of downtown Anchorage near the intersection of Railroad Avenue and Yakutat Street, adjacent to Ship Creek. See Figure 1 for a site location and vicinity map. The site is zoned I-2, which denotes a heavy industrial district, by the Municipality of Anchorage. The property is owned by the Alaska Railroad Corporation (ARRC). The site is located within the Municipality of Anchorage. Anchorage is the largest metropolitan area in the state, with a population of over 290,000 persons. A residential area is located one half mile southeast of the site, across Ship Creek. JBER is located one third mile northeast of the site. Ship Creek is a designated anadromous fish stream by the Alaska Department of Fish and Game.

Land Use & History of Contamination

The Federal Railroad Administration (FRA), part of the U.S. Department of Transportation (USDOT), acquired the land in the 1920s. Metal recycling and salvage businesses operated on the site beginning in 1955 and until 1993. Site activities included reclamation of copper from electrical transformers containing polychlorinated biphenyls (PCBs), salvaging of assorted batteries, and processing of various types of equipment and drums from nearby military bases. Releases of hazardous substances occurred from these activities and the inappropriate handling of transformer oils. In 1982, the land was leased to Standard Steel & Metals. The site contained transformers, bulk tanks, an incinerator, a metal crusher, drums and other containers, and additional items associated with salvage operations. FRA owned and leased the property until 1985, when it was purchased by the State of Alaska and managed by the Alaska Railroad Corporation. The ARRC is an independent corporation owned by the State of Alaska. The entire Standard Steel site is within the ARRC's Post Road Industrial Lease Lots. The ARRC currently leases the majority of the site (Lots 53-57) to SAW Jacques, LLC who operates Central Recycling Services, Inc. (CRS) for construction and demolition waste recycling. The remainder of the site (Lot 58-A) is utilized for storage of trailers and piles of steel by R.J.H. (doing business as (dba) STEELFAB) under a special land use permit with the ARRC. The site is adjacent to Ship Creek, a stream used for sport fishing. A recreational trail runs along the southern bank of the creek. The future land use of the site is expected to remain the same, there are no known changes anticipated at this time. A recent aerial view of the Standard Steel site is shown in Figure 7.

Initial Response

The USEPA conducted a series of removal actions from 1986 through 1988 to address site contamination. The USEPA removed and disposed off-site all PCB-contaminated liquids, eighty-two 55 gallon drums of Resource Conservation and Recovery Act (RCRA) hazardous waste, 10,450 gallons of waste oil, 185 electrical transformers contaminated with PCBs, and 781,000 pounds of lead-acid batteries. Contaminated soils were stockpiled and a security fence and erosion-control wall was built. USEPA proposed adding the site to the NPL on July 14, 1989. The Standard Steel site was listed on the NPL on August 30, 1990.

Basis for Taking Action

A Remedial Investigation/Feasibility Study (RI/FS) was completed in January 1996. The study identified PCBs and lead as the primary contaminants of concern at the site. The site posed potential threats to human health and the environment through ingestion, dermal contact, and inhalation of contaminated soils. Sampling results from the Feasibility Study detected a maximum of 24,000 mg/kg lead and 2,700 mg/kg PCBs in soils. The excess cancer risks for a long-term worker exceeded the 1E-4 target risk at the site and the hazard index (HI) exceeded a level of exposure which may result in adverse health effects. The risks associated with either residential or industrial exposure to elevated concentrations of PCBs and lead in site soil were determined to present significant risks to human health. Groundwater risks did not contribute significantly to the total risk, and offsite groundwater was not impacted.

The ecological risk assessment determined that the most sensitive ecological habitat in the site vicinity was found in Ship Creek. It further concluded the data indicated that conditions within Ship Creek, within the study area, were not significantly impacted by contamination from the site. The ecological risk assessment observed that the highest contaminant concentrations were measured in the area where former site operations were concentrated and because of the gravely fill material and shotcrete cap, little ecological habitat was present in this area. Based on the information presented in the ecological risk assessment, the risk to ecological receptors appeared small, due to the poor habitat of the site.

Remedial action at the site was required for contaminated soils only. All actions taken to address PCB contaminated soils also addressed co-located dioxin/furans. Groundwater, sediment, and surface water did not pose unacceptable risk and therefore did not require remedial action.

IV. Remedial Actions

Remedy Selection

Based on the results of the RI/FS and information contained in the Administrative Record, the Regional Administrator for USEPA Region 10 signed a Record of Decision (ROD) on July 16, 1996 selecting remedial actions for the Standard Steel site. The remedial action objectives (RAOs) identified for the site are:

- Prevent exposure by inhalation, ingestion, and dermal contact with contaminated soils that would result in an excess lifetime carcinogenic risk above 1E-4 for industrial use, and off-site non-industrial use;
- Prevent exposure by inhalation, ingestion, and dermal contact with contaminated soils that would result in noncarcinogenic health effect as indicated by an HI greater than 1.0;
- Prevent off-site migration of contaminants caused by mechanical transport, surface water runoff, flood events, and wind erosion;
- Prevent leaching or migration of soil contaminants into groundwater that would result in groundwater contamination in excess of regulatory standards.

According to the 1996 ROD, the key components of the selected remedy include:

- Removal of regulated material stockpiled on-site and investigation derived wastes with subsequent disposal in a RCRA Subtitle C or D landfill, or recycling of materials;
- Off-site disposal of remaining scrap debris by recycling or disposal in a RCRA Subtitle D landfill or, if the debris is a characteristic hazardous waste or contains greater than 50 milligrams per kilogram (mg/kg) PCBs or 10 micrograms per 100 centimeter squared ($\mu\text{g}/100\text{cm}^2$) by standard wipe tests, treatment and disposal in a RCRA Subtitle C or Toxic Substances Control Act (TSCA) landfill;
- Excavation and consolidation of all soils exceeding cleanup levels (10 mg/kg PCBs or 1,000 mg/kg lead);
- Treatment of all soils at or greater than 1,000 mg/kg lead or 50 mg/kg PCB by stabilization/solidification;
- On-site disposal of stabilized/solidified soils and excavated soils between 10 mg/kg and 50 mg/kg PCBs in TSCA landfill;
- Excavation of soils impacted above 1 mg/kg PCBs and 500 mg/kg lead from the flood plain and consolidation of these soils elsewhere on the site;
- Maintenance and repair of erosion control structure on bank of Ship Creek;
- Maintenance of solidified/stabilized soils and the landfill;
- Institutional controls to limit land uses of the site and, if appropriate, access;
- Monitoring of groundwater at the site to ensure the effectiveness of the remedial action.

Remedy Implementation

On January 26, 1998, the United States District Court for the District of Alaska approved a Remedial Design and Remedial Action Consent Decree for performance of the remedy at the Standard Steel Site. The Consent Decree was entered into by the United States, on behalf of the USEPA, the Settling Defendants or Potentially Responsible Party (PRP) Group, and the ARRC as the Owner Settling Defendant. PRPs (Chugach Electric Association, Inc., Montgomery Ward and Company, J.C. Penney Company, Inc., Bridgestone/Firestone, Inc., Sears Roebuck and Company, and Westinghouse Electric Corporation) were identified based on the transformers, batteries, and other materials recycled at the site. The ARRC signed the Consent Decree exclusively for the purpose of agreeing to provide access and implement institutional controls. The Settling Defendants/PRP Group agreed to perform the remedial design/remedial actions selected in the ROD and other Work required by the Consent Decree.

The remedial design work was conducted in accordance with the approved ROD and statement of work for the Consent Decree. The remedial action was formally initiated in April 1998. The contractor conducted the remedial actions pursuant to the approved remedial design/remedial action work plans. Potential unexploded ordnance was encountered during the implementation

of the remedy. However, the work plans anticipated this possibility and the remedial actions proceeded with some changes. All suspected ordnance and explosives, and unexploded ordnance was removed and treated by the U.S. Army's military explosives ordnance detachment from Fort Richardson, Alaska.

The selected remedy was enhanced by the following approved design changes, which were implemented in 1998 and 1999:

- Excavating all upland surface soils outside the limits of the TSCA landfill which exceeded 1 mg/kg PCBs or 250 mg/kg lead to a depth of three feet; and disposal in the onsite TSCA landfill (note that per the draft Site Closeout Report, stricter cleanup levels were selected by the PRP group).
- Including a geomembrane cover system consisting of a four-inch foam insulation layer, 40 mil liner, geonet drainage layer, filter fabric, and three feet of clean soil over the landfill.
- Creation of a flood protection barrier on three sides of the landfill.
- Replacement of the rip rap erosion control wall adjacent to Ship Creek with an Alaska Department of Fish and Game requested natural erosion protection system. This system incorporated native vegetation and artificial logs to secure the stream bank and provide habitat.

Based on these changes, an Explanation of Significant Differences (ESD) was signed on November 18, 1998 which waived the requirement of 40 CFR 761.75(B)(9)(i) for a fence around the TSCA landfill.

A Remedial Action Report was signed on August 1, 1999 and a Final Closeout Report was signed on June 26, 2002 which documented that all work at the site has been completed and all cleanup levels established in the ROD have been achieved through the remedial actions.

The TSCA disposal cell is located on 2.5 acres along the northeast boundary of the site. The waste consolidation cell measures approximately 320 by 340 feet and extends to a depth of about 15 feet below finished grade. The cell holds approximately 55,000 tons of contaminated material, of which 22,272 tons were stabilized. The contaminated soils are covered with closed cell foam insulation, a 40 mil geomembrane cover, geocomposite drainage layer, and three feet of clean soil. The cell is designed to be utilized for vehicle/equipment storage or a future building area. The cell is surrounded on three sides by a 14,000 ton rip rap barrier wall designed to protect against a 500 year (minimum) flood event. Figure 3 depicts the consolidation cell, monitoring wells, and drainage ditches.

The ROD required twice yearly groundwater monitoring for PCBs and lead during the first two years of operation of the remedy. The ROD states that after ten years an assessment of the groundwater data will be conducted to determine whether groundwater monitoring is still required or whether the frequency will be altered. The groundwater standards to be achieved are 0.5 micrograms per liter ($\mu\text{g/L}$) for PCBs and 15 $\mu\text{g/L}$ for lead. The Groundwater Monitoring Plan (ALTA Geosciences, 1998) specified sampling and analysis of groundwater from one

upgradient (MW22) and four downgradient wells (MW13, MW14, MW15, and MW24). See Figure 3 for monitoring well locations.

Operations and Maintenance (O&M)

Pursuant to the Consent Decree, Chugach Electric Association, Inc., J.C. Penney Company, Inc., Bridgestone/Firestone, Inc., Sears Roebuck and Company, and Westinghouse Electric Corporation (CBS Corporation is its successor) are responsible for operation and maintenance procedures. The remedy requires maintenance of the landfill to ensure it retains its structural integrity and prevents the release of PCBs and lead through erosion, leaching or excavation. The remedy included groundwater monitoring for PCBs and lead and analysis for pH, specific conductance, and chlorinated organics to ensure the landfill is not contributing to contamination of groundwater, nor altering groundwater conditions.

The Operations and Maintenance Plan (revised) (ALTA Geosciences, July 2000) contains the detailed requirements for ongoing O&M activities, as well as recommended operating limitations for site activities or future building construction. O&M activities include verification that the construction components of the remedy are intact and operating properly, groundwater monitoring, and periodic maintenance of the landfill cap and surface drainage systems.

The O&M Plan (revised) required site inspections of the consolidation landfill cell twice per year for the first 3 years after implementation (1998-2001) followed by annual inspections thereafter. Inspections should also be made following floods, earthquakes, or other events with the potential to damage the landfill cell.

The O&M Plan (revised) states groundwater monitoring will continue for a minimum of 5 years following implementation of the remedy. Monitoring wells (MW) were sampled twice yearly (semiannual) for the first 2 years after construction completion (1999, 2000), once yearly (annual) during 2001-2002, and was reduced to once every 2 years (biennial) beginning in 2004, with the approval of the USEPA and the Alaska Department of Environmental Conservation (ADEC). The groundwater monitoring program demonstrated the effectiveness of the landfill containment cell; no significant detections of contaminants of concern have been observed. Groundwater monitoring was discontinued in 2014.

Operation and maintenance activities have been occurring as required by the PRP Group. Inspections are performed by PRP Group's consultant, Alta Geosciences. Site inspections have occurred annually since 2001. Operation and Maintenance costs for the last five years are summarized in Table 2.

The ARRC also performs random observations and inspections of the site when it deems appropriate. The current site operator, CRS, also observes and inspects the site as necessary to ensure its business operations are compatible with site restrictions.

Institutional Controls

The objectives and restrictions on use required by the ROD are:

- Ensure that site use continues to be industrial or commercial and prevent use of the site

for commercial developments that involve potential chronic exposures of children to soil (e.g., use of the site for a day care center).

- Restrict activities at the site that could potentially impair the integrity of the TSCA landfill.
- Prevent movement of soil containing greater than 1,000 mg/kg lead or 10 mg/kg PCBs to the surface or within the top foot of soil where chronic long-term worker exposure could occur.
- Groundwater use restrictions which prevent the installation of groundwater supply wells at the site and restrict use of groundwater underlying the site for any purpose.
- Property owner will provide written notification of restrictions and site conditions to local, regional, and state agencies, departments, and utilities.

Institutional Controls contained in the ROD and agreed to by the Alaska Railroad Corporation in the Consent Decree provided notice of the TSCA landfill, land and water use restrictions to the state of Alaska, the Municipality of Anchorage, local utilities, and all lessees, and will prevent excavation, construction, or other incompatible uses at the Site. A title search for the property, effective October 2, 2017, confirmed the Declaration of Restrictive Covenants and Notice of Remedial Action appears in the property records and land use restrictions are still in place to prevent exposure to the consolidated landfill cell contents (see Attachment 4). A search of Municipality of Anchorage Code, confirmed that Chapter 15.55 Water Wells (as amended effective Jan 1, 2006 by Anchorage Ordinance AO No. 2005-130 and No. 96-98(S)) prohibits the installation of unpermitted water wells for domestic purposes, and requires a minimum non-perforated casing length of 40 feet in unconsolidated materials and bedrock. The Municipality of Anchorage code Title 21 Land Use Planning requires approval by ordinance of the Assembly for any zoning map amendments for a property (as amended effective Jan 1, 2014). The Municipality of Anchorage also requires acquiring permits for building construction, excavations, and other related activities.

The long-term Institutional Controls required by the ROD are being implemented through commitments made in the RD/RA Consent Decree, the recording of the Declaration of Restrictive Covenants which runs with the land, and through contractual requirements imposed by leases or assignments. The Institutional Controls cover the entire site and appear to be effective.

Table 2 below shows the estimated annual O&M costs for the Standard Steel site for the past five years.

Table 2. Annual Operations & Maintenance Costs

Dates	Total Costs (rounded)	Description
YEAR 15 2013	\$0	Private PRP group had fallen out of communication with each other and did not become organized until mid-2014. Costs incurred during 2013 were paid for in 2014.

Dates	Total Costs (rounded)	Description
YEAR 16 2014	\$2,900	Site inspection, no GW monitoring
YEAR 17 2015	\$11,318	Site inspection, brush removal from ditches and relocation of protection rock, no GW monitoring
YEAR 18 2016	\$2,013	Site inspection, no GW monitoring
YEAR 19 2017	\$1,882	Site inspection, no GW monitoring

GW - groundwater

V. Progress Since the Last Review

The third five-year review was completed in April 2013 and concluded the remedy was functioning as intended and protective of human health and the environment. No significant issues were identified from the Third Five-Year Review (2013). Follow-up actions for the next five-year review due in April 2018 included:

- Verifying PCBs detected above cleanup level (1 mg/kg) in surface soils of a former drainage ditch adjacent to the southwest corner of the Standard Steel site were addressed through a separate action between the ARRC and the USEPA. Remedial actions will not be performed as an action between ARRC and the USEPA.
- A recommendation to discontinue groundwater monitoring since groundwater data continued to demonstrate no adverse impacts. EPA approval to discontinue groundwater monitoring was granted in September 2014.

VI. Five-Year Review Process

Administrative Components

Members of the Standard Steel and Metals Salvage Yard PRP Group, the site owner, project managers from ADEC, natural resource trustees, and other interested parties or individuals were notified of the initiation of the fourth five-year review in August 2017. The five-year review team was led by Sandra Halstead of the USEPA Region 10. Louis Howard of ADEC assisted in the review as the representative of the support agency. Alex Tula of ALTA Geosciences representing the PRP Group assisted in the review to ensure technical accuracy. Lisa Geist and Rebecca Jordan of the USACE, Alaska District coordinated and prepared the review documentation.

Community Notification and Involvement

The USEPA published notification of the fourth five-year review in the Anchorage Dispatch News on September 15, 17, and 18, 2017 (see Attachment 5). In addition, approximately twenty-nine letters were mailed on September 13, 2017 to inform interested parties of the fourth five-year review. The USEPA sent interview questionnaires via electronic mail to key officials on September 13, 2017 and requested the forms be returned by October 13, 2017. Completed

interview questionnaires are in Attachment 2. The USEPA received no responses from the general public or other local stakeholders. Input received from regulatory agencies and the PRP group or site owners and operators was positive.

The USEPA will issue a public notice and fact sheet to announce the availability of the fourth five-year review. The results of the review will be made available to the public at the Alaska Resources Library and Information Services (ARLIS) located at the University of Alaska Anchorage Consortium Library, 3211 Providence Drive, Anchorage, Alaska, and on the USEPA website at <http://www.epa.gov/superfund/standard-steel>.

Document Review

This five-year review consisted of a review of relevant documents including the ROD (July 1996), Consent Decrees (December 1996, January 1998), Explanation of Significant Differences (November 1998), O&M Plan (Revised) (July 2000), Title Search (October 2017), ARRC Lease Agreements, Municipality of Anchorage land use status, 1995 and 2017 aerial photographs, the ADEC Contaminated Sites Database Report for Standard Steel, and Interview Questionnaire responses. A complete list of documents that were reviewed is provided in Attachment 1.

Data Review

Considering the low frequency of detection and the low concentrations detected relative to action levels, the ROD did not retain any contaminants of concern for groundwater. However, the ROD did require groundwater monitoring for a minimum of 10 years to assess the effectiveness of the remedy for protecting groundwater, as well as ensuring the landfill is not contributing contamination to groundwater, nor altering groundwater conditions. The ROD required monitoring for lead, PCBs, chlorinated organics, pH, and specific conductance. One upgradient and four downgradient wells were designated for sampling and analysis in the Groundwater Monitoring Plan (November 1998). See Figure 3 for monitoring well locations. Groundwater monitoring occurred twice yearly (semiannual) for the first 2 years (1999 and 2000) after construction completion, once yearly (annual) during 2001 and 2002, and was reduced to once every 2 years (biennial) beginning in 2004, with the approval of the EPA and ADEC. Ten groundwater monitoring events have been performed over the course of eighteen years. The groundwater monitoring program to date has demonstrated the effectiveness of the landfill containment cell; no significant detections of contaminants of concern have been observed. A recommendation to discontinue groundwater monitoring was made during the third five-year review and was granted by EPA in September 2014. The groundwater standards to be achieved were 0.5 micrograms per liter ($\mu\text{g/L}$) for PCBs and 15 $\mu\text{g/L}$ for lead. The federal and state drinking water standards for PCBs and lead have not changed since the ROD was signed.

Post-ROD groundwater monitoring results indicate no adverse impacts from lead, PCBs, or volatile organic compounds (VOCs).

ARRC conducted a Remedial Investigation (RI) along the Ship Creek corridor, referred to as Anchorage Terminal Reserve, in 2005-2006 under Administrative Order of Consent CERCLA 10-2004-0064. ATR encompasses the land surrounding Standard Steel and Metals. RI results indicated sediment was contaminated with PCBs at a concentration >1 mg/kg in ditch SE-4, associated with a former drainage from the Standard Steel site (Figure 10). Remedial actions

have not been implemented by the ARRC to address the PCB-contaminated soils in the former drainage ditch area and will not be performed as an action between ARRC and the USEPA.

Site Inspection

A site visit was conducted by the USACE on September 26, 2017. A representative from the USEPA and Central Recycling were present during the September site visit. Two representatives from the ARRC, ADEC, and Chugach Electric were also present during the site visit. The purpose of the site visit was to assess the protectiveness of the remedy, including the integrity of the onsite landfill cell, the condition of the cover, and runoff and drainage systems. Attachment 3 contains the Site Visit Report; photos of site conditions are included at the end of the report.

No significant issues were identified during the site visit other than heavy vegetative growth present in drainage ditches and on the sides of the consolidation cell riprap. According to the O&M Plan, perimeter storm drainage ditches should be free of obstructions and sediment buildup and the gravel lining maintained to prevent erosion. There were several areas where growth had covered the gravel lining and multiple alders and other brush were present in and around drainage ditches. The O&M Plan also stated that the top surface and sides of the consolidation cell must be maintained free of deep-rooted plant species. Multiple trees and large brush were present along the south side of the consolidation cell. Additionally, the center of the erosion control riprap cover on the south slope was no longer exposed and was filled with material. Even with the heavy vegetative growth, water was not observed in the drainage ditches. Vegetative growth has increased since the last five-year review and may require maintenance at the next scheduled O&M site visit in 2018.

The natural channel of Ship Creek had also visibly changed since the previous five year review. Key components of the implemented remedy include maintenance and repair of erosion control structures on bank of Ship Creek, including placement of artificial logs, large boulders, and native vegetation. Several of the large boulders previously located on the floodplain immediately south of the consolidation cell were visible in the active stream channel, which has continued to erode towards the north and undercut the stream bank.

There were approximately 20 unlabeled drums staged in two piles in the southwestern corner of the property which is currently operated by STEELFAB. Several drums appeared to be leaking. A spill report was filed with ADEC on September 26, 2017 with two additional field visits occurring on the 27th and 29th. ADEC described the discovery of drums of materials that included Durathane II, zinc slag/dust and steel shot that had partially released their contents near the southeast corner of the STEELFAB property. A cleanup plan was received October 17, 2017. A Final Site Characterization Report dated January 12, 2018 was submitted to ADEC. The drums were removed and properly disposed. The underlying soil was sampled and the results were not indicative of historical contamination from the Standard Steel site. The report identified low concentrations of 1,2,4-trimethylbenzene, ethylbenzene, and xylenes. Possible sources of these volatile organic compounds (VOCs) are diffuse impacts from fuel, Durathane II or the solvents used in the painting and/or coating operations. The impacts were localized to the drums and none of the soil contaminants from under the drums have been detected in monitoring wells 13 and 14 at the Standard Steel site.

The institutional controls that are in place include prohibitions on: residential use or activities, commercial uses that would involve exposure of children to the soil, impairing the integrity of the landfill cover, disturbing or excavating other soils onsite, and groundwater use. No activities were observed that would have violated the institutional controls. The cap and the surrounding area were undisturbed. No new groundwater monitoring wells were observed. Vehicle storage is allowed. Various trucks, trailers, and other equipment were observed working on the capped area. Section 7.2 of the Remedial Action Final Conceptual Design identified a maximum weight load of 2000 pounds per square foot on the geomembrane system. The largest excavator typically used by CRS on the cap is a CATERPILLAR 325c, which is approximated at a loading weight of 1009.6 pounds per square foot. Stockpiles of recycled construction and demolition debris were observed on the capped area. The stockpile material is typically crushed concrete, chipped tires, shredded wood, or other material that is easily identified on the surface of the soil covered cap, providing a visual delineation for CRS operators to avoid penetrating the containment cell. No cracks, sloughing, erosion, or other impacts to the cap were noted during the inspection.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes. The review of the Consent Decrees, O&M Plan, O&M reports, site inspections, and interview questionnaires, etc. indicate that the remedy is functioning as intended by the ROD and modified by the ESD. The stabilization and capping of contaminated soils in a TSCA landfill cell has achieved the remedial action objectives to minimize the migration of contaminants to groundwater, and to prevent exposure of onsite workers to contaminants in soils. Institutional Control requirements have been implemented and maintained. The Institutional Control requirements are functioning as intended, and are effectively meeting remedial objectives.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?

Yes. The remedy selection was based on an industrial use scenario and evaluation of risks for short-term workers, long-term workers, and future adult residents from direct contact, ingestion, or inhalation of contaminated soils. The industrial exposure assumptions are considered to be conservative and reasonable in evaluating risk and developing risk-based cleanup levels. There has been no change to the standardized risk assessment methodology that could affect the protectiveness of the remedy. Cleanup levels for PCBs and lead have not changed.

The exposure pathway of vapor intrusion had not previously been evaluated at the Standard Steel site. Vapor intrusion is the migration of vapor forming chemicals from the subsurface into an overlying building. Some PCBs can exhibit semi-volatile properties and could present risk from vapor exposure. USEPA released updated guidance, OSWER Publication 9200.2-154 (June 2015), which provides a recommended framework for assessing vapor intrusion using multiple lines of evidence including but not limited to building surveys, data on the presence of volatile chemicals in groundwater or soil gas, indoor air data, and other means to control exposure risk (i.e. site use restrictions). The CRS building, adjacent to the containment cell, was inspected to see if there was potential PCB vapor intrusion risk. The CRS building includes a large warehouse/maintenance space, an office and breakroom area, and a bathroom. There are no floor

drains in the concrete slab; and the only penetration in the slab is for the septic system. No as-built plan was available for review to confirm the presence or absence of additional floor penetrations. Groundwater data at the site has never detected volatile organic compounds above vapor screening levels. The soil stabilization remedy implemented at the containment cell could potentially volatilize PCBs during the mixing process, but any current release is anticipated to be insignificant 20 years following the stabilization process. EPA determined that there is little chance of vapor intrusion risk as there is no groundwater contaminated with vapor-forming chemicals, limited conduits for gas to enter the CRS building, and effective site institutional controls which maintains industrial land use and restricts exposure to contaminated subsoils through prohibiting disturbance of the containment cell cap. No further investigation is warranted at this time for vapor intrusion.

Toxicity data has not changed for the primary contaminants of concern: PCBs and lead. After completion of the Baseline Risk Assessment, EPA lowered the screening level for lead to 400 mg/kg in soils (residential use). This change does not affect the conclusions of the risk assessment at the Standard Steel site. The TSCA landfill requirements are unchanged. The remedial action objectives to be achieved through groundwater monitoring are 0.5 µg/L for PCBs and 15 µg/L for lead. The federal and state drinking water standards for PCBs and lead have not changed since the ROD was signed.

The ROD specified a range of soil cleanup levels for the site.

- No action was required for soils with PCBs < 1 mg/kg and lead < 500 mg/kg.
- Excavation and consolidation of soils elsewhere onsite was required for flood plain soils only with PCBs between 1 and 9.9 mg/kg and lead between 500 and 999 mg/kg.
- Excavation and consolidation of soils containing between 10 and 49 mg/kg PCBs in the onsite landfill.
- Excavation of soils containing 50 mg/kg or greater PCBs and 1,000 mg/kg or greater lead; treat by solidification/ stabilization and dispose in onsite landfill.

The implemented remedy actually achieved a stricter cleanup level and all soils (upland and floodplain) across the site that exceeded 1 mg/kg PCBs or 250 mg/kg lead were excavated and consolidated in the onsite TSCA landfill cell.

The current EPA 2017 guidance recommends using the Adult Lead Methodology to assess lead risks from soil for non-residential Superfund site scenarios. The recommended soil Preliminary Remediation Goal is 1,050 mg/kg which corresponds to a baseline blood lead concentration of 5 µg/deciliter. This updated goal is less stringent than the original cleanup goal, therefore the 250 mg/kg lead level is still protective of the designated land use at the site.

After the ROD was signed, as documented in the ESD (1998), the approved design was enhanced by excavating and consolidating all upland surface soils outside the limits of the TSCA landfill which exceed 1 mg/kg PCBs or 500 mg/kg lead and adding a Geomembrane cover system, consisting of a four inch foam layer, 40-mil Geomembrane impermeable liner, geonet drainage layer, geonet filter fabric and three feet of clean soil. The addition of the Geomembrane cover system and three feet of soil exceeds the design requirements of the ROD and satisfies the intent of 40 CFR 761.75(b)(9)(i).

Institutional controls required in the ROD are in place and appear to be effective.

As a part of this Five Year Review, EPA R10 reassessed the conclusions in the Anchorage Terminal Reserve (ATR) Ecological Risk Assessment^a. The risk assessment concluded the sediment samples in the intermittently dry ditch SE-4 posed a potential risk to aquatic benthic organisms and shorebirds if this is the only habitat available to the receptors. However, remediation of this area alone is not warranted unless the other adjacent contaminated areas are addressed (Attachment 6). As of April 2018, no remedial action has been implemented to address the PCB contamination in surface soils detected in a former drainage ditch, SE-4, adjacent to southwest corner of the Standard Steel site during a 2005-2006 investigation by the ARRC. Concentrations of PCBs ranged from 0.05 to 2.13 mg/kg. The ARRC conducted the investigation of ATR under a separate Administrative Order on Consent with the USEPA. A Feasibility Study completed by the ARRC in December 2010 indicates they intend to remove the PCBs above 1 mg/kg in the former drainage ditch and treat the soil by incineration. The sampled area is not an active drainage pathway for the landfill cell, site land use is still industrial, thus the remedy implemented at Standard Steel remains protective. USEPA transferred oversight of the ATR to ADEC in April 2016 and future action may be required under state authority (Attachment 7).

There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No new information has been identified that may call the protectiveness of the remedy into question.

Technical Assessment Summary

According to the site inspection, documents, and data reviewed, the remedy is functioning as intended by the ROD. The achievement of more stringent soil cleanup levels beyond the flood plain soils to include all upland soils enhances the protectiveness of the remedy. Institutional controls remain effective for the Standard Steel Superfund site. The site operators are aware of activity restrictions and the PRP Group continues to conduct site inspections. Land use remains industrial and no changes are anticipated which could affect site operations.

VIII. Issues

There were no issues identified which effect short- or long-term protectiveness of the remedy during this review.

^a RETEC, 2008. Appendix C, Ecological Risk Assessment, Alaska Railroad Corporation, Anchorage Terminal Reserve, revised May 12, 2008. Appendix C within ENSR, November 2007. Remedial Investigation, Alaska Railroad Corporation, Anchorage Terminal Reserve, USEPA Docket No CERCLA 10-2004-0064.

IX. Other Findings

The following findings are identified for follow up but are not significant to effect protectiveness of the remedy.

The sides of the consolidation cell are required to be maintained free of deep-rooted plant species according to the O&M Plan. Additionally, the gravel lining in the perimeter storm drainage ditches should be maintained and free of debris and plant growth. During the site visit in September 2017, several trees and bushes were noted, growing up along the south side of the consolidation cell and in the storm drainage ditches. There were several areas along the drainage ditch that the gravel lining was overgrown with grass and plants so that the gravel was not visible.

Recommendation: O&M operations should be done in accordance with the O&M Plan and occur more frequently. The integrity of the landfill cap, storm drainage ditches, and erosion control measures should be evaluated to determine the remedy remains protective of human health and the environment. The PRP Group should continue to perform the O&M activities and submit reports in a timely, consistent manner to the USEPA, as required by the Consent Decree.

During the site inspection, only three of the five groundwater monitoring wells were located. Since groundwater monitoring was discontinued in September 2014, the wells are no longer needed.

Recommendation: The O&M Plan should be revised as groundwater monitoring was discontinued. The two groundwater monitoring wells not visible during the site inspection (Well 15 and Well 22) should be located and all monitoring wells (Well 13, 14, 15, 22, and 24) should be properly decommissioned. Georeferenced survey coordinates of the well locations would greatly aid in locating these wells for future action.

Ship Creek continues to erode its banks. A portion of the north bank nearest to the consolidation cell which eroded during the 2012 flood continues to migrate towards the landfill cap. Aerial photographs from August 1995 (Figure 5), October 2012 (Figure 6), and September 2017 (Figure 7) were reviewed to determine if significant stream channel erosion had caused the stream to migrate towards the landfill consolidation cell since it was constructed. The 1995 aerial photograph depicts the stream channel prior to the construction of the consolidation cell; the 2012 aerial shows the impact from the last major flood event; the 2017 aerial is the most current photograph of the stream channel. Although the stream channel morphology has naturally changed since 1995, a comparison of the aerial photographs (Figure 8) appears to demonstrate the stream channel has only slightly migrated towards the landfill consolidation cell.

Recommendation: Continued monitoring of the Ship Creek streambank should be conducted during the next Five Year Review, including visual inspection and aerial photo comparisons. The consolidation cell was designed to allow for normal geologic processes should the entire channel of Ship Creek migrate northwards. The consolidation cell's erosion control wall construction extends well below the bottom elevation of Ship Creek and is

designed in such a way that migration of Ship Creek does not present a threat to the consolidation cell (Figure 11). The remedy remains protective of human health and the environment. In the event of continued stream migration towards the consolidation cell the integrity of the erosion control wall will be monitored and construction integrity confirmed.

X. Recommendations and Follow-Up Actions

There are no issues that affect the protectiveness of the remedy.

XI. Protectiveness Statement(s)

The remedy at Standard Steel is protective of human health and the environment. All exposure pathways that could result in unacceptable risks are being controlled. All contamination at the site have been addressed through stabilization and capping of contaminated soils, and the implementation of institutional controls. All monitoring data indicates the landfill containment cell is functioning as required to prevent exposure to the contaminated materials, and prevent offsite migration of contaminants.

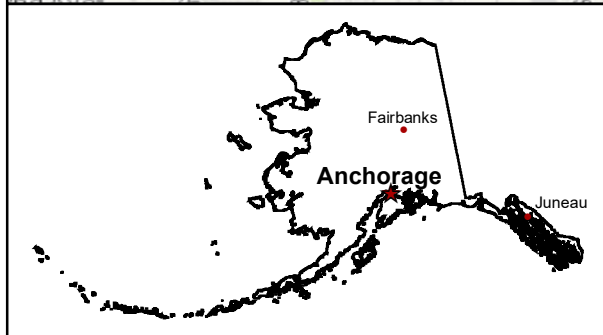
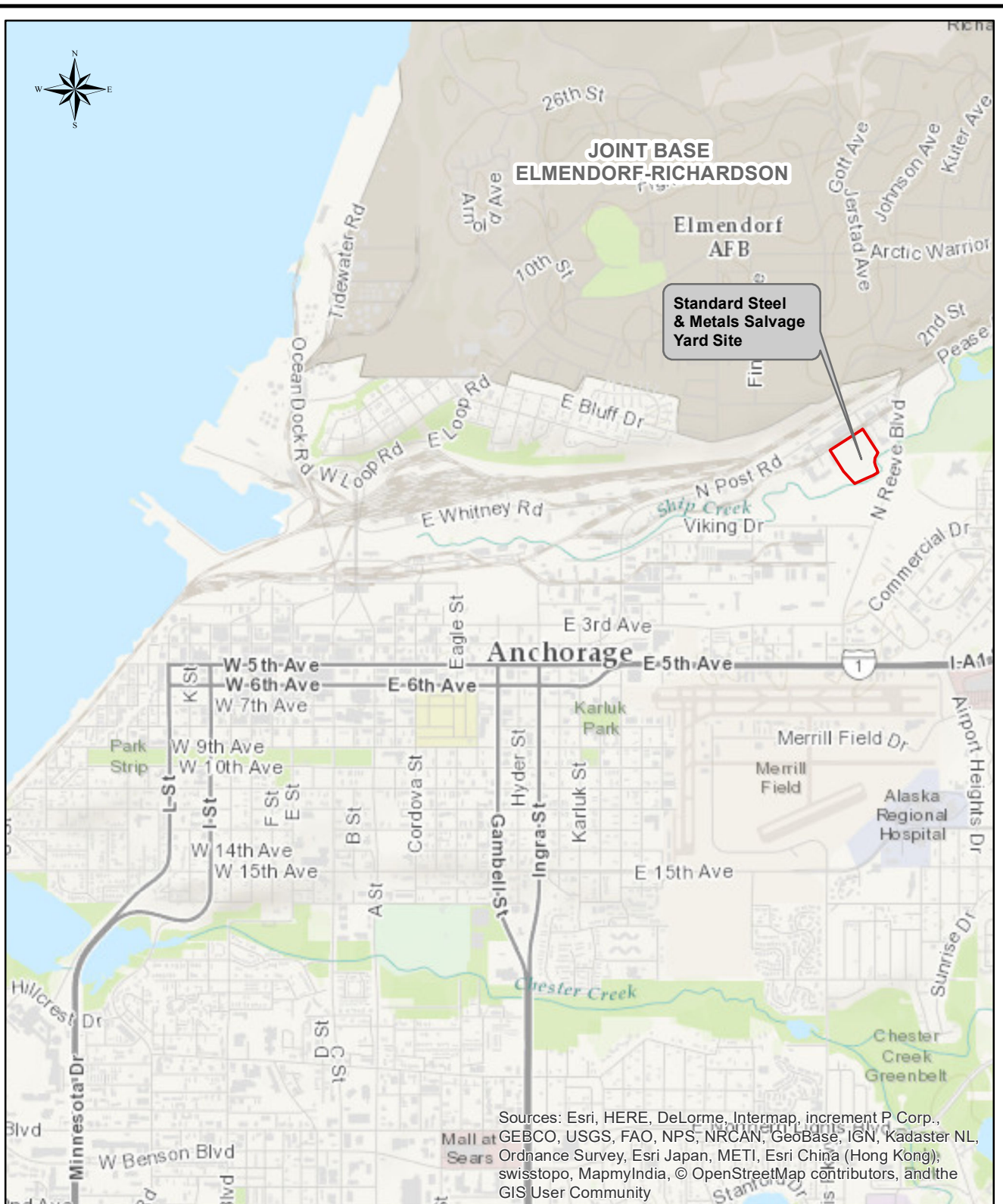
XII. Next Review

The next five-year review for the Standard Steel & Metals Salvage Yard site is required by April 11, 2023, five-years from the date of this review.

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FIGURES

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LOCATION AND VICINITY MAPS

FIGURE 1 Standard Steel & Metals Salvage Yard Anchorage, Alaska



US Army
Corps of Engineers
Alaska District

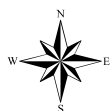
0 0.5 1
Miles

Drawn: J4ENERSF
Date: 11/22/2017
Source: ESRI online
Topographic basemap



Legend

- Standard Steel Site
- Landfill Containment Cell




Source: Aerial photograph from DigitalGlobe, dated September 26, 2017

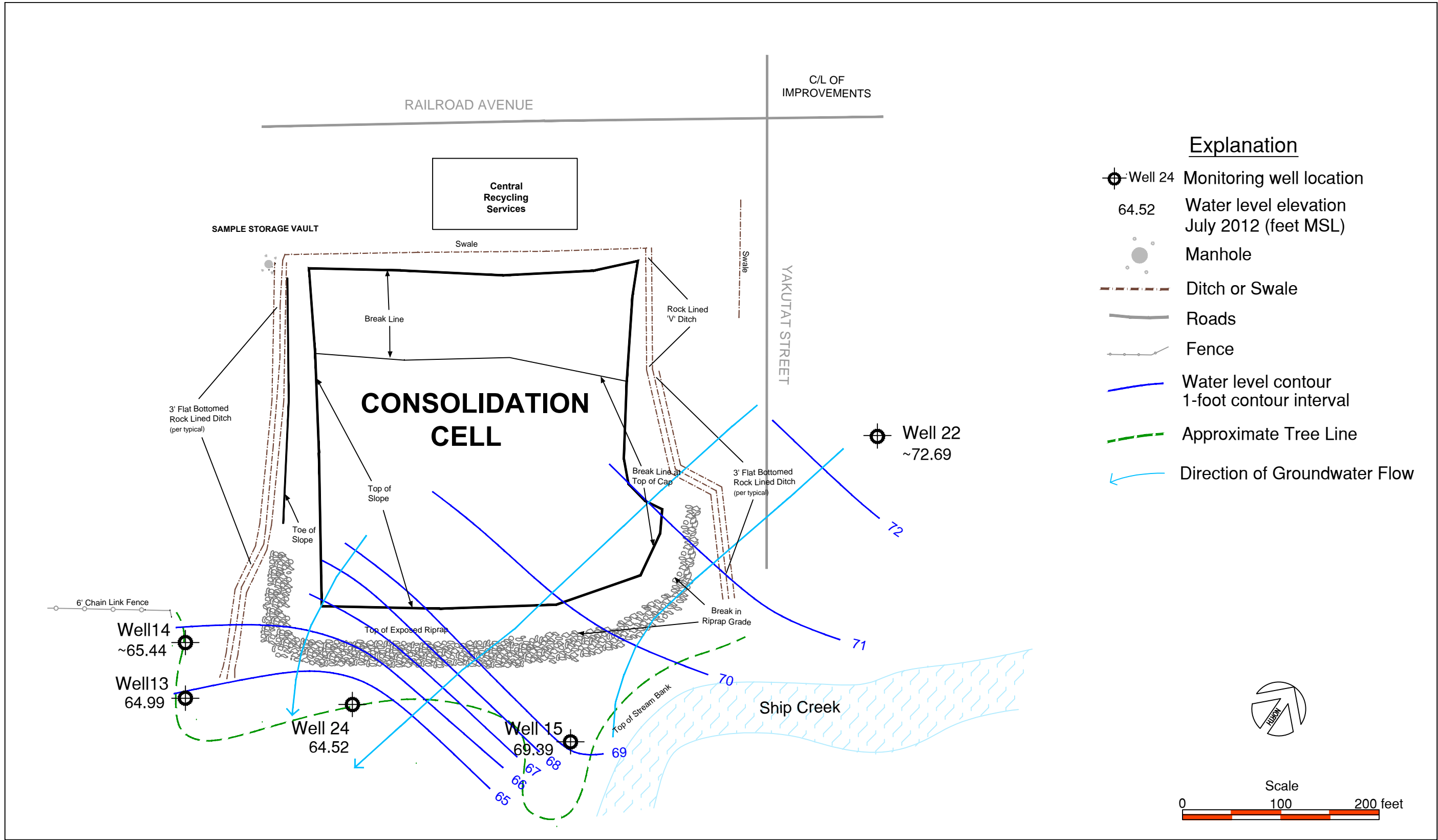
FIGURE 2 **AERIAL VIEW**
Standard Steel & Metals Salvage Yard
Anchorage, Alaska



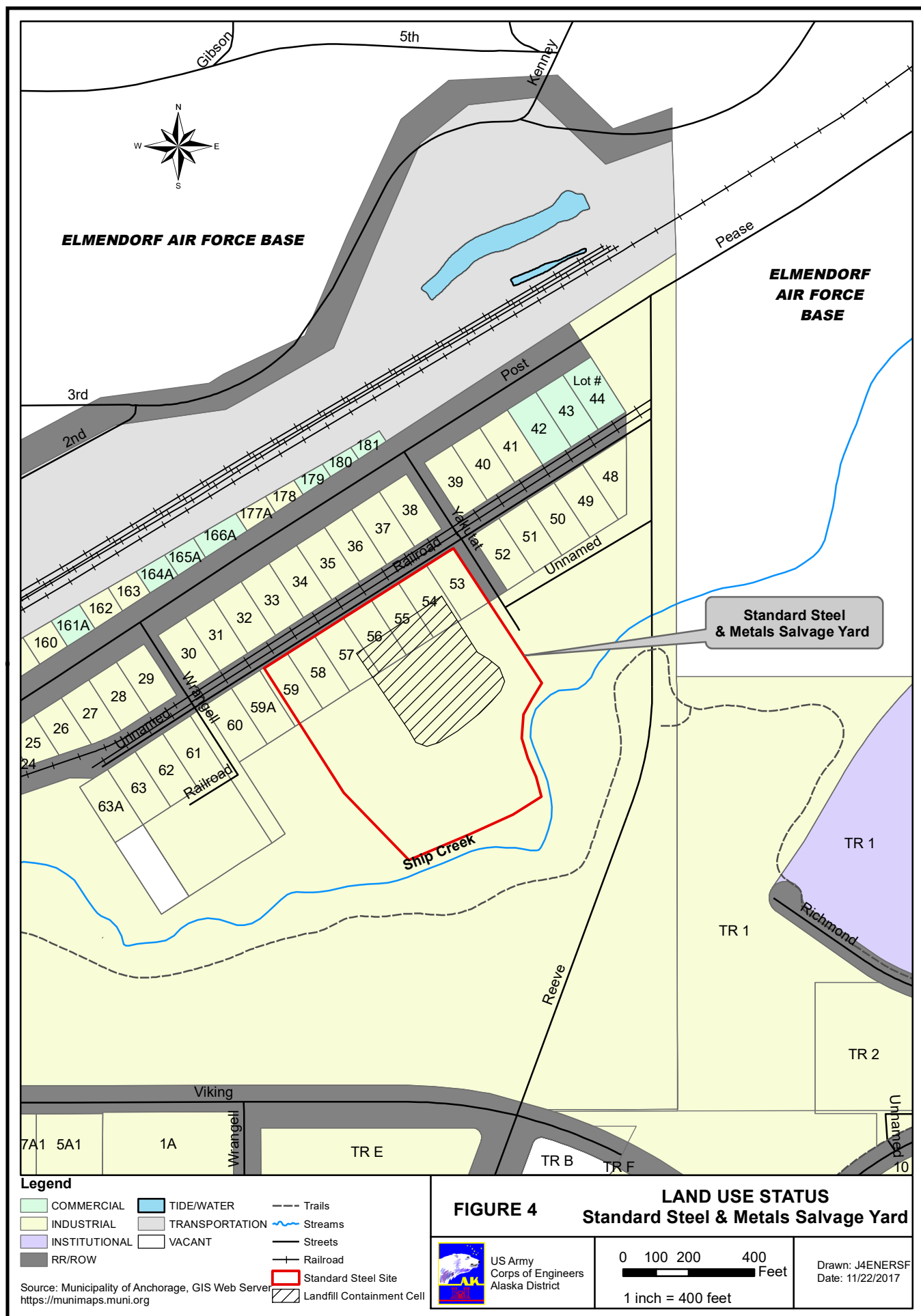
US Army
Corps of Engineers
Alaska District

0 50 100 150
 Feet

Drawn: J4ENERSF
Date: 1/24/2018



**Standard Steel & Metals Salvage Yard
Superfund Site
Anchorage, Alaska**





Legend

- Standard Steel Site
- Landfill Containment Cell
- Ship Creek (1995 approximate channel)

Source: Aerial photography from Aerometric, dated August 20, 1995



FIGURE 5 **AERIAL VIEW - AUGUST 1995**
Standard Steel & Metals Salvage Yard
Anchorage, Alaska



US Army
Corps of Engineers
Alaska District

0 50 100 150

Feet

Drawn: LKG
Date: 3/2013



Legend

- Standard Steel Site
- Landfill Containment Cell
- Ship Creek (2012 approximate channel)

Source: Aerial photography from Aerometric, dated October 11, 2012



FIGURE 6

AERIAL VIEW - OCTOBER 2012
Standard Steel & Metals Salvage Yard
Anchorage, Alaska

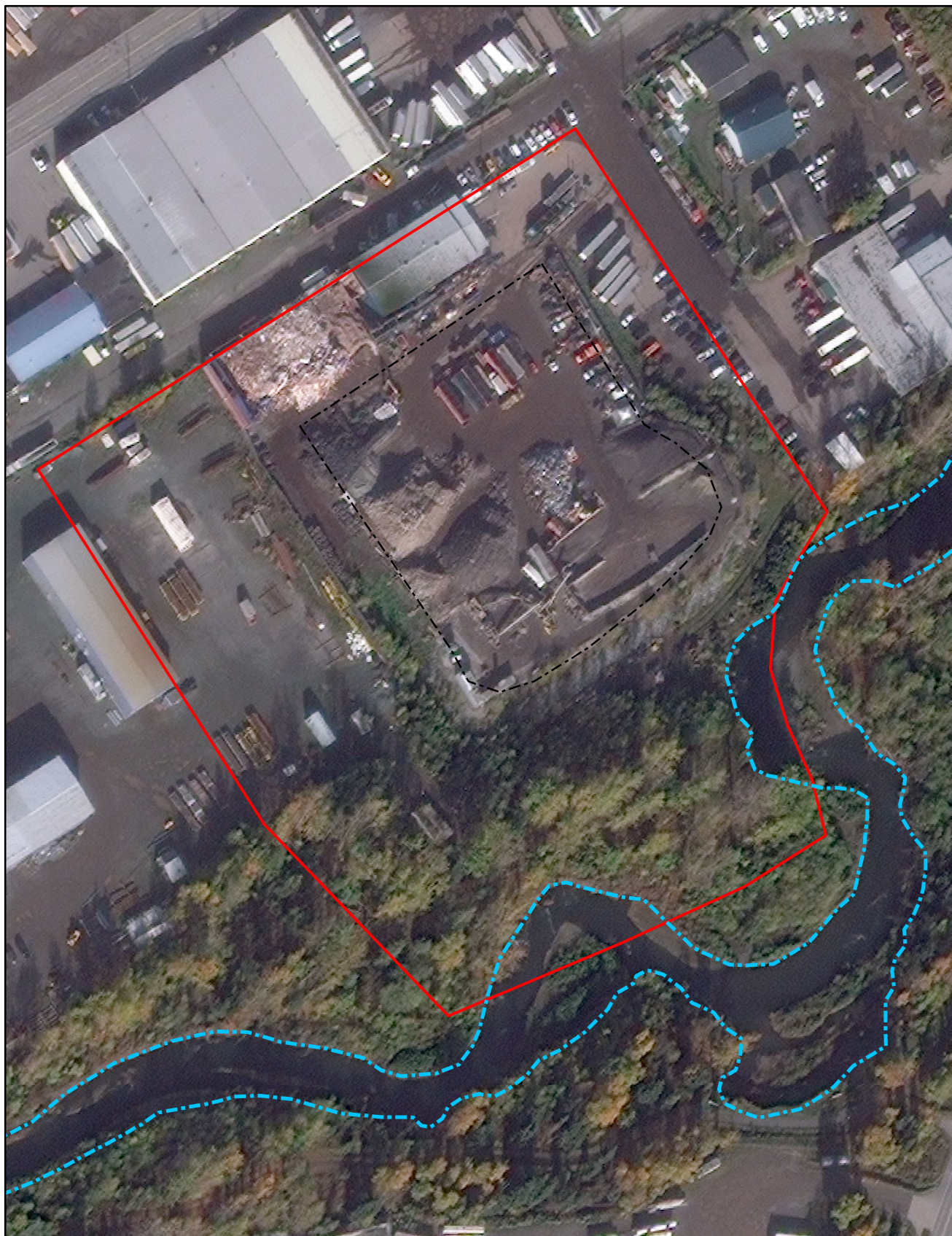


US Army
Corps of Engineers
Alaska District

0 50 100 150

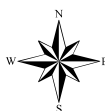
Feet

Drawn: LKG
Date: 3/2013



Legend

- Standard Steel Site
- Landfill Containment Cell
- Ship Creek 2017



Source: Aerial photography from DigitalGlobe, dated September 26, 2017

FIGURE 7

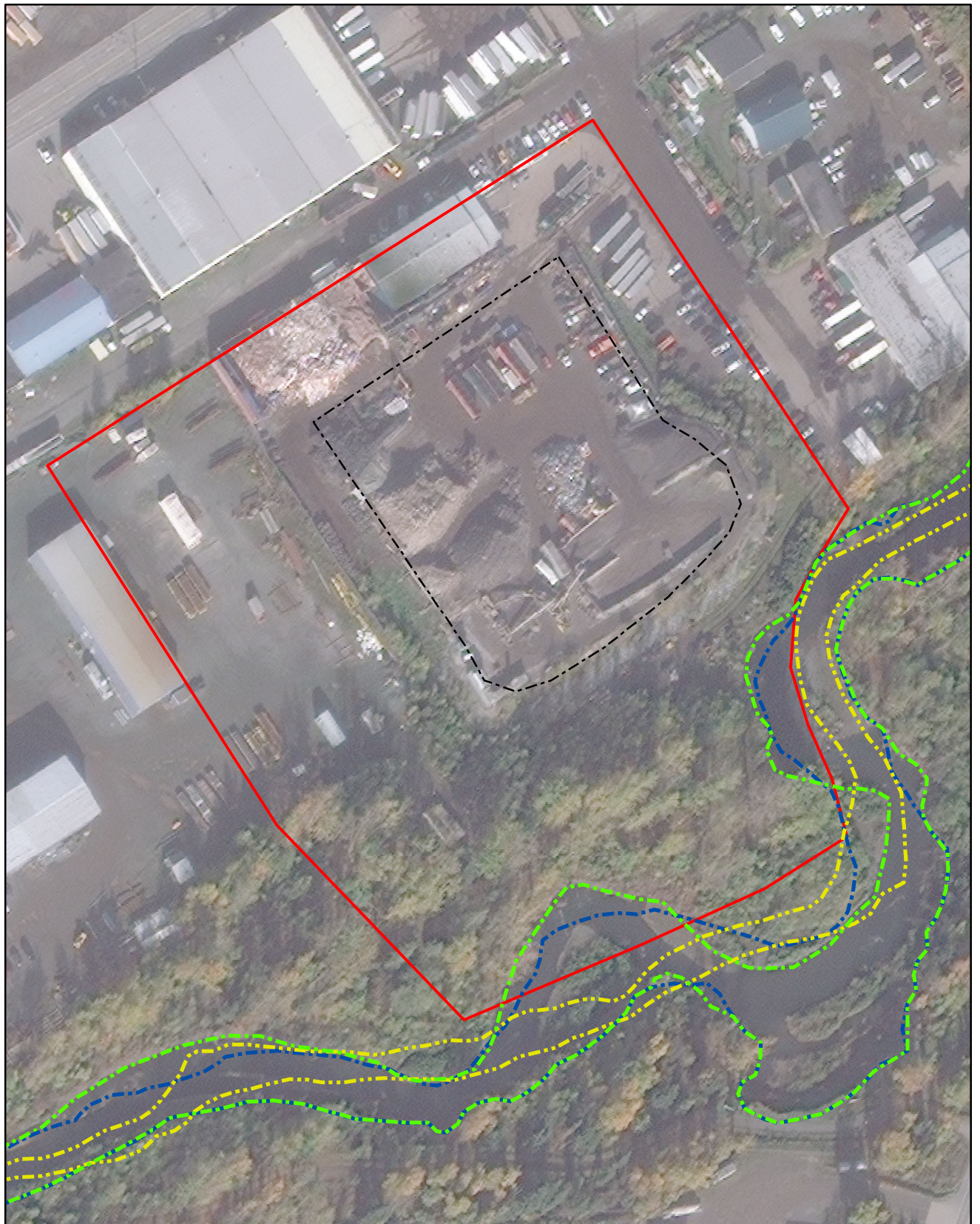
AERIAL VIEW - SEPTEMBER 2017
Standard Steel & Metals Salvage Yard
Anchorage, Alaska



US Army
 Corps of Engineers
 Alaska District

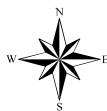
0 50 100 150
 Feet

Drawn: J4ENERSF
 Date: 12/21/2017



Legend

- Standard Steel Site
- Landfill Containment Cell
- Ship Creek (1995 approximate channel)
- Ship Creek (2012 approximate channel)
- Ship Creek (2017 approximate channel)



Source: Aerial photography from DigitalGlobe, dated September 26, 2017

AERIAL VIEW - COMPARISON
FIGURE 8 Standard Steel & Metals Salvage Yard
 Anchorage, Alaska



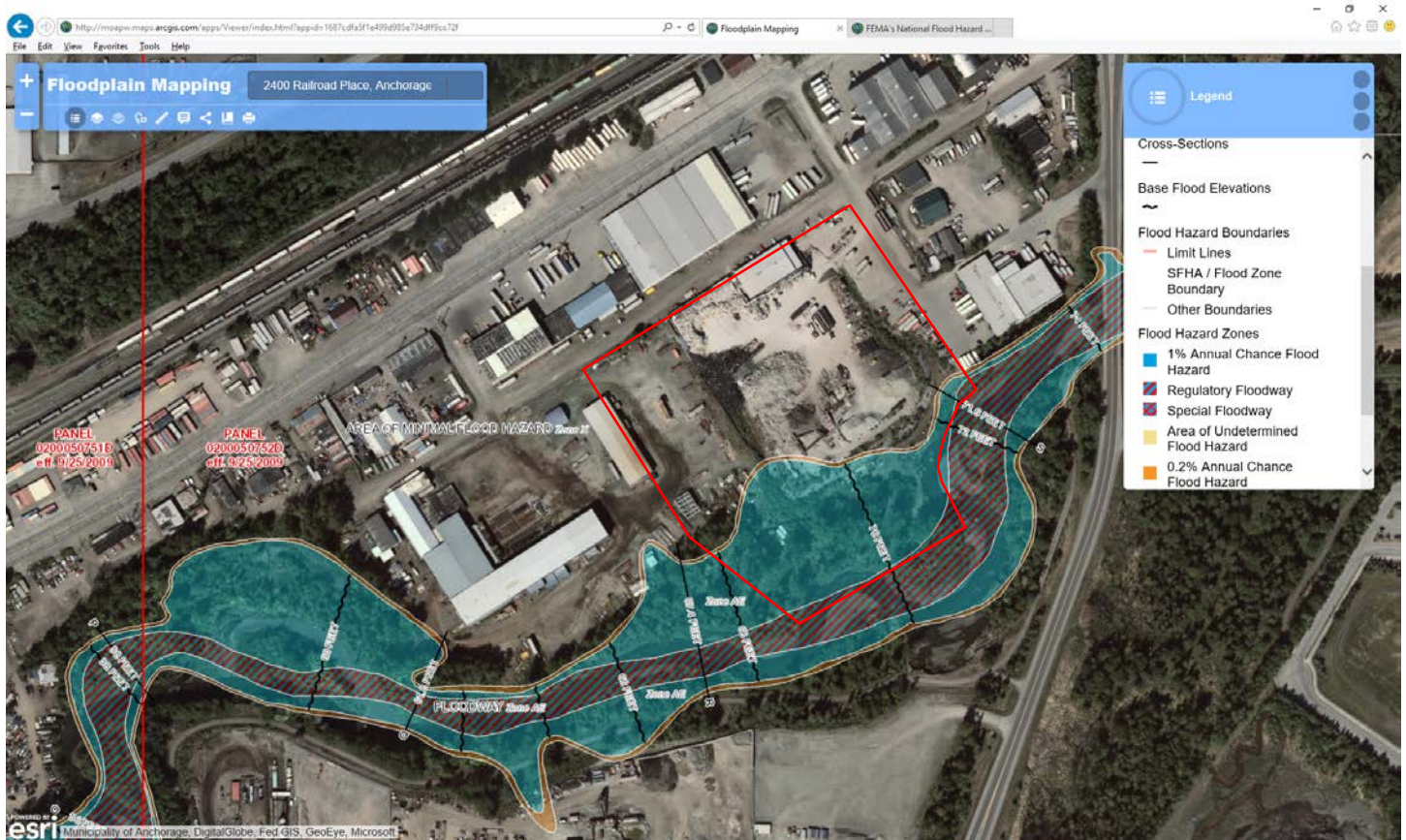
US Army
 Corps of Engineers
 Alaska District

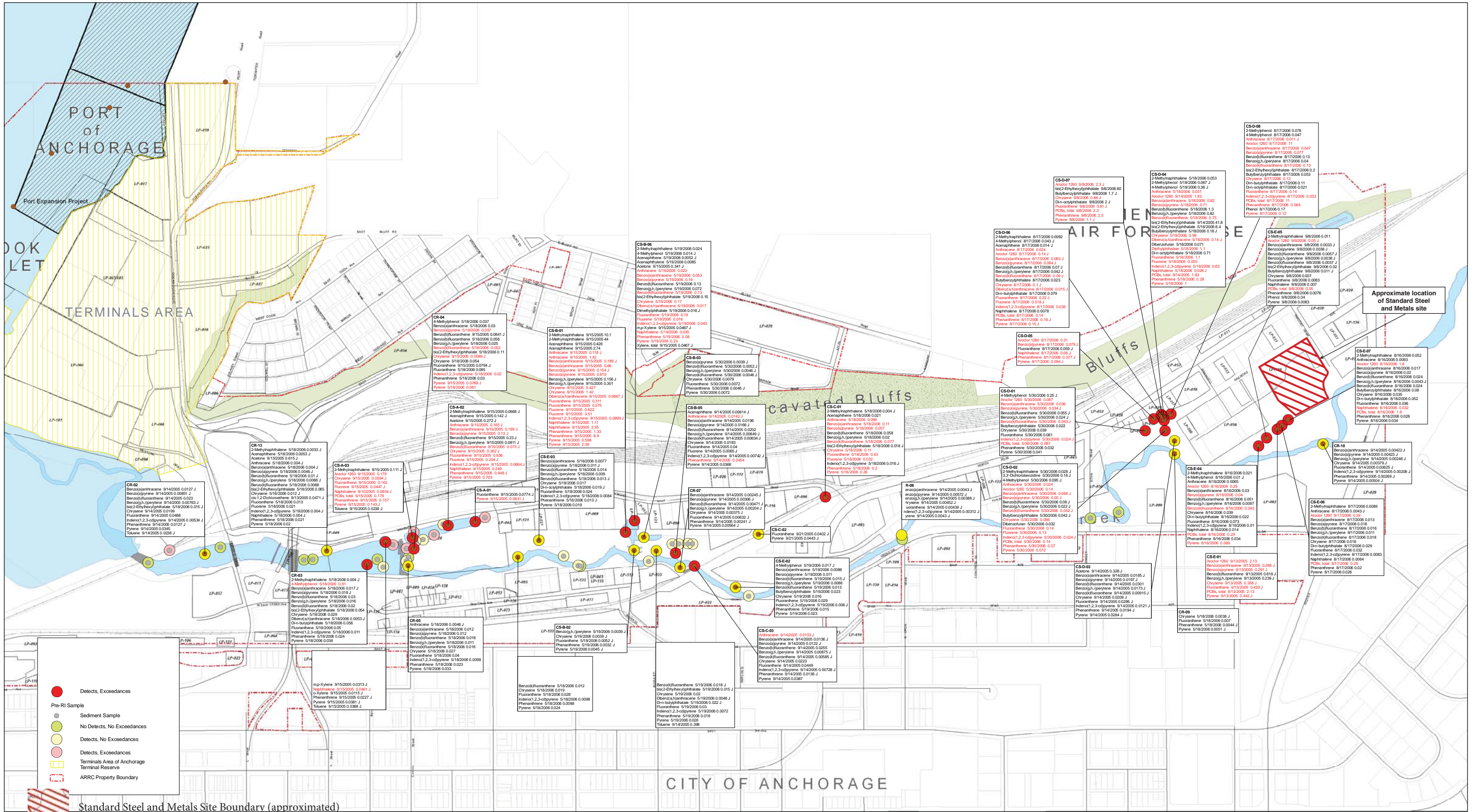
0 50 100 150
 Feet

Drawn: J4ENERSF
 Date: 12/20/2017

Figure 9. Flood Hazard Zones from Municipality of Anchorage Maps and Data Gallery

<http://moapw.maps.arcgis.com/apps/Viewer/index.html?appid=1687cdfa5f1e499d985e734dff9cc72f>





Notes:

- Results are reported in mg/kg.
- Upstream of the KAPP Dam, the RI Screening Level is the lower of the Human Health Soil Screening Level or the Freshwater Sediment Ecological Screening Level.
- Downstream of the KAPP Dam, the RI Screening Level is the lower of the Human Health Soil Screening Level or the Marine Sediment Ecological Screening Level.
- See tables for qualifier definitions.
- Only detected results are shown.
- Pre-RI results for this analyte group are shown for reference but are not labeled. Refer to Section 2 for maps of Pre-RI results.



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